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ELECTRON-CAPTURE-DELAYED FISSION IN ^{232}AM AND ROTATIONAL STRUCTURE IN ^{232}PU

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The electron-capture-delayed fission (ECDF) process allows us to study structure in very neutron-deficient nuclei that could not be directly produced in a fusion reaction. This decay mode may be important in the production of heavy elements in the r-process. The ECDF nuclide ^{232}Am was produced at the Lawrence Berkeley National Laboratory 88-Inch Cyclotron in the ^{237}Np(^{3}He, 8n) reaction using a stack of 10 thin (124-197 μg/cm^2 each) targets at a beam energy of 75 MeV incident on the first target. Recoiling activities were collected and transported to a specially designed "Sample Changer" that moved samples into Gammasphere for analysis. The latest results on ECDF in this nuclide and rotational structure in the electron capture daughter ^{232}Pu will be discussed. These experiments show the promise of using Gammasphere to study nuclei that would otherwise be inaccessible due to the need for radioactive targets or pre-separation in the Berkeley Gas-Filled Separator.

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